

Appl. No. 10/775,792

Amdt. Dated March 2, 2009

Reply to Office action of February 05, 2009

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

What is claimed is:

1. **(Original)** An apparatus for illuminating a macroscopically-sized specimen for, upon at least one time, observation along a single viewing axis, the apparatus comprising: a stage for supporting a specimen to be observed; one or more first illumination sources radiatively illuminating the specimen upon the stage so that at least some radiation returned from the specimen will be returned along the viewing axis; at least one dichroic mirror positioned so that at least a portion of the specimen not directly observable along the viewing axis will be reflected in the mirror so as to become observable along the viewing axis; and one or more second illumination sources radiatively illuminating the specimen on the stage through the at least one dichroic mirror so that at least some radiation reflected from that region of the specimen not directly observable along the viewing axis will become reflected by the dichroic mirror and will become observable along the viewing axis.
2. **(Original)** The apparatus according to claim 1 wherein the at least one dichroic mirror comprises: a plurality of dichroic mirrors at least two of which plurality are oppositely positioned about the specimen upon the stage; wherein radiation directly reflected from the specimen along the viewing axis permits an observation called a top view while radiation from the specimen reflected by the at least two dichroic mirrors permits observations called left and right side views.
3. **(Original)** The apparatus according to claim 1 wherein at least one of the one or more first illumination sources is directly illuminating the specimen upon the stage.
4. **(Original)** The apparatus according to claim 3 wherein two first illumination sources directly illuminate the specimen upon the stage.

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5. **(Original)** The apparatus according to claim 1 wherein at least one of the first and the second illumination sources is a fiber optic illumination source.

6. **(Original)** The apparatus according to claim 1 wherein radiation emitted from at least one of the first and the second illumination sources is suitable so as to induce fluorescent emission in the specimen.

7. **(Current Amended)** The apparatus according to claim 1 that, ~~between the at least one dichroic mirror and the specimen upon the stage,~~ further comprises: a selectively regionally transparent and opaque grid or rule mask, located between the at least one dichroic mirror and the specimen upon the stage, for selectively blocking both radiation from the at least one second illumination source through the at least one dichroic mirror to the specimen, and also such radiation reflected from the specimen as is further reflected by the at least one dichroic mirror along the viewing axis, so that a grid pattern or rule scale visually appears upon an image of those specimen regions that are illuminated through, and that are viewed through, the mask.

8. **(Original)** The apparatus according to claim 1 that, between the at least one dichroic mirror and the specimen upon the stage, further comprises: a color filter.

9. **(Original)** The apparatus according to claim 1 that, between the at least one dichroic mirror and the specimen upon the stage, further comprises: a fluorescent image calibration step wedge.

10. **(Current Amended)** ~~To an apparatus holding and illuminating a macroscopically sized three dimensional specimen so that about one-half the specimen's surface may be viewed at one time along a single viewing axis, an improvement directed to enabling panoramic viewing of more than one-half of the specimen at one time, the improvement to the apparatus comprising:~~ An improvement of an apparatus holding and illuminating a macroscopically-size three dimensional specimen so that about one-half of the specimen's surface may be viewed at one time along a single viewing axis, improvement comprising: a dichroic mirror positioned so that at least a portion of the specimen that is not directly observable along the viewing axis will be reflected in the mirror so as to become observable along the viewing axis; and an illumination source illuminating the specimen on the stage through the at least

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